

DOCUMENT-IDENTIFIER: US 4194939 A

TITLE: Method of making layered fabrics

BSPR:

The bulk fibers which, in general, provide a substantial part and, in most cases, the predominant part of the thickness of the fabrics of this invention without imparting a high bulk density to those fabrics may include organic fibers such as chopped threads or leather or the like, natural fibers including cotton, linen, hemp, silk, wool or wood pulp, synthetic fibers including rayon, acetate, nylon, polyester, acrylics, modacrylics, or a blend or mixture thereof. Predominantly (more than 50%) by weight they are short fibers having essentially no fiber lengths exceeding 10 mm. In some instances, including particularly some instances in which the bulk fiber layer is a surface layer of such fabrics, the bulk fibers may desirably consist essentially of such short fibers, or even of short fibers having essentially no fiber lengths exceeding 5 mm, of which many wood pulp fibers are a preferred example. In fact, it is another desirable feature of various natural (e.g. wood pulp) fibers that they have a curvilinear configuration which provides such a surface layer with a softness to the touch having considerable esthetic appeal for many potential uses of such fabrics. In that regard, defibrated wood pulps are especially preferred in some instances.

CCXR:

156/62.2

DOCUMENT-IDENTIFIER: US 5883025 A

TITLE: Molded bodies comprising bond material based on cellulose acetate and reinforcing natural cellulose fibers, a process for the production and the use thereof

BSPR:

Further important components of the molded bodies according to the invention are the reinforcing natural cellulose fibers or the natural cellulose-containing fibers which, in terms of the definition explained above are to be understood as "biologically degradable". In individual cases one can also speak of an extensive biological degradation which should as much as possible lead to such degradation products which can be considered not to be damaging to the environment. According to the invention, natural cellulose fibers or natural cellulose-containing fibers are used with special advantage in the form of capoc, sisal, jute, flax, coconut, gambo, abaca, mulberry bast, hemp, ramie and/or cotton fibers. The fibers have preferably a mean fiber length of approximately 0.2 to 100 mm, in particular 3 to 30 mm, and a mean cross-sectional diameter of approximately 8 to 100 .mu.m, in particular approximately 10 to 30 .mu.m.

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DEPR:

Cellulose acetate fibers having the DS values shown in Table 1 and the fiber amount also there stated were used. Flax fibers of a cut length of 10 mm and cellulose acetate fibers of a cut length of 5 mm and a gauge of 3 dtex were processed to fiber web in a wet-web facility. Two types of cellulose acetate were used which differed in the degree of substitution (DS): DS 2.2 (Examples 1 to 5) and DS 2.5 (Examples 6 to 10). The amount of flax fibers varies from 15 to 85% by weight. These webs were molded in multiple layers in a hydraulic press to form boards of approximately 2.5 mm thickness. The pressing conditions were 260.degree. C., 1 minute and 120 bars. The webs were conditioned to a total moisture content of approximately 4% by weight before the molding. The mechanical properties are listed in Table 1.

5,057,165

4,404,750

DEPR:

Example 13 corresponded to example 8, but the web was not produced on a wet installation but rather a web carding machine was used with fiber length of flax and cellulose acetate: 50mm.

CCXR:

264/109

DOCUMENT-IDENTIFIER: US 4738895 A

TITLE: Woody fiber mat

**BSPR:**

The woody fibers used in the present invention refer to woody fibers obtained by cooking and pulping wood chips, pulp, regenerated pulp obtained by pulping waste paper, etc., and constitute a main component of the woody fiber mat.

The long fibers refer to vegetable fibers such as cotton, hemp, etc., animal fibers such as wool, synthetic fibers such as nylon, polyester, etc. and the like, and are suitably chosen from among those which are not deteriorated by heat applied at the time of heat treatment and molding for producing the mat as mentioned later, followed by cutting the fibers to a fiber length of 10 to 50 mm and blending the cut fibers with the above woody fibers for use. The woody fibers generally have a main fiber length as short as 1 to 2 mm, and by blending such fibers with the long fibers, it is possible to improve the moldability of the mat, and further, use of 10 parts by weight or more of the long fibers based on 100 parts by weight of the woody fibers is preferred.

**DEPR:**

Wood chips of a conifer were cooked and pulped, and steam was separated from the resulting material to obtain woody fibers having a length of 3 mm and a water content of 45% by weight. Hemp cut to a fiber length of 40 mm was used as the long fibers. As the thermoplastic fibers, polypropylene/low density polyethylene side-by-side type composite fibers (composite ratio: 50/50, thickness: 3d, length: 38 mm), low density polyethylene fibers (thickness: 3d, length: 38 mm) and polypropylene fibers (thickness: 3d, length: 38 mm) were used. As the thermoset resin, powdery phenolic resin was used.

**CCXR:**

156/62.2

| Type | L #  | Hits | Search Text                                                                                                                 | DBs               | Time Stamp       |
|------|------|------|-----------------------------------------------------------------------------------------------------------------------------|-------------------|------------------|
| 1    | BRS  | L1   | 39688<br>(fiber or fibrous or strand) near4 length                                                                          | USPAT;<br>US-PGPU | 2001/10/04 10:03 |
| 2    | IS&R | L3   | 1633<br>("264/109, 113").CCLS.                                                                                              | BSPAT;<br>US-PGPU | 2001/10/04 10:04 |
| 3    | IS&R | L4   | 690<br>("156/62.2").CCLS.                                                                                                   | BSPAT;<br>US-PGPU | 2001/10/04 10:04 |
| 4    | BRS  | L5   | 8857<br>(plant or vegetable or nonwoody or non adj woody<br>or straw or hemp or flax) near5 (fiber or fibrous or<br>strand) | BSPAT;<br>US-PGPU | 2001/10/04 10:06 |
| 5    | BRS  | L6   | 504<br>1 same 5                                                                                                             | BSPAT;<br>US-PGPU | 2001/10/04 10:06 |
| 6    | BRS  | L7   | 15<br>(3 or 4) and 6                                                                                                        | BSPAT;<br>US-PGPU | 2001/10/04 10:07 |